

## ABSTRACT

The present invention provides a mixture of self-assembling peptide-amphiphiles with complementary charges whose design and function is patterned after proteins having biological functions. The oppositely charged peptide amphiphiles may be self-assembled

5 by combining them in a charge equivalent ratio. Variations of structural peptide sequences in the oppositely charged peptide-amphiphiles enable the assembled nanofibers to exhibit two or more biologically relevant signals.